IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:	Joung et al.	Docket No.:	2003P07969 US
Serial No.:	10/627,844	Confirmation No.:	2648
Filing Date:	7/25/2003	Examiner:	MALEVIC, DJURA
Customer No.:	26474	Art Unit:	2884

For: Registered Collimator Device for Nuclear Imaging Camera and Method of Forming the Same

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Sir:

Pursuant to the Notice of Appeal filed on April 28, 2009, this is a brief in support of appeal from the final rejection of claims 1 – 28 in the Office action mailed January 28, 2009. Claims 1 – 28 are currently pending and are the subject of this appeal.

Pursuant to 35 U.S.C. § 134(a), no further fee is required for filing the appeal, as the fee has been already paid in connection with the appeal filed March 28, 2008, in response to which the Examiner withdrew the then-outstanding final rejection.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account 14.1437. Please credit any excess fees to such account.

REAL PARTY IN INTEREST:

The real party in interest is Siemens Medical Solutions USA, Inc. of Malvern, Pennsylvania.

RELATED APPEALS AND INTERFERENCES:

To the best of the undersigned's knowledge, there are no related interferences or judicial proceedings.

STATUS OF CLAIMS:

- Claims 1 – 28 are pending in the application.
- Claims 1 – 28 are rejected.
- No claims are allowed or confirmed.
- No claims are subject to restriction and/or election requirement.
- No claims are withdrawn.
- No claims are objected to.
- No claims are canceled.

STATUS OF AMENDMENTS:

No amendment was filed subsequent to the final rejection mailed January 28, 2009. A reply to the final rejection was filed, but only contained remarks.

SUMMARY OF CLAIMED SUBJECT MATTER:

The invention, as claimed in claim 1, relates to a collimator device for a nuclear imaging camera. This collimator device comprises a grid of collimation square holes formed by a plurality of sheets arranged in a grid pattern (Fig. 1A).[1] Each of these sheets

[1] Specification, page 4, lines 1 – 3.

must have evenly spaced slots into which other sheets are inserted (Fig. 1B).[2] The collimator device further comprises optically reflecting material. The optically reflecting material must coat at least a portion of the surfaces of the sheets forming the grid of the collimation square holes.[3] The collimator further comprises pixellated scintillators individually located in each of said collimation square holes.[4] This arrangement not only allows the reflecting material to provide optical isolation between the pixellated scintillators thereby maximizing the useful output intensity of each scintillator crystal,[5] but also allows for cost-effective fabrication.[6]

The invention, as claimed in claim 10, relates to a scintigraphic device. This scintigraphic device[7] comprises a collimator device[8] including a grid of collimation square holes formed by a plurality of sheets arranged in a grid pattern.[9] Each of the sheets must have evenly spaced slots into which other sheets are inserted.[10] The scintigraphic device further comprises optically reflecting material that coats at least a portion of the surfaces of the sheets forming the grid of the collimation square holes.[11] The scintigraphic device further comprises pixellated scintillators individually located in each of said collimation square holes,[12] and a detector coupled to the pixellated scintillators.[13] The detector must be operable to detect radiation emanating from an object and interacting with the scintillators after passing through the collimator device.[14]

The invention, as claimed in claim 19, relates to a method of forming a collimator device.[15] This method comprises forming a plurality of evenly spaced slots across a longitudinal direction of a plurality of sheets;[16] arranging said plurality of sheets in a grid pattern by inserting a sheet into each of said slots and thereby forming a grid of

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[2] Specification, page 4, lines 4 – 5.
[3] Specification, page 4, lines 5 – 7.
[4] Specification, page 4, lines 3 – 4.
[5] Specification, page 6, lines 17 – 19.
[6] Specification, page 8, line 7.
[7] Specification, page 4, line 9.
[8] Specification, page 4, line 9.
[9] Specification, page 4, lines 12 – 13.
[10] Specification, page 4, lines 14 – 15.
[11] Specification, page 4, lines 16 – 17.
[12] Specification, page 4, lines13 – 14.
[13] Specification, page 4, lines 9 – 10.
[14] Specification, page 4, lines 10 – 12.
[15] Specification, page 4, lines 18 – 19.
[16] Specification, page 4, lines 19 – 21.

collimation square holes;[17] coating at least a portion of the surfaces of said sheets forming said grid of said collimation square holes with an optically reflecting material;[18] and inserting pixellated scintillators into each of said collimation square holes.[19] This method allows for cost-effective fabrication.[20] Moreover, since the reflecting material provides optical isolation between the pixellated scintillators, the method results in a collimator device with maximized useful output intensity of each scintillator crystal.[21]

The invention, as claimed in claim 28, relates to a building block for forming a collimator device of a nuclear medical imaging camera.[22] The building block comprises an elongated sheet of metallic material.[23] The elongated sheet of metallic material must have a thickness suitable for functioning as septa of said collimation device.[24] The elongated sheet of metallic material must also have a plurality of evenly spaced slots into which other elongated sheets are inserted in order to form a grid pattern of collimation holes into which pixellated scintillators are placed.[25] Finally, the elongated sheet of metallic material must be coated with an optically reflective material.[26]

The independent claims involved in the appeal are claims 1, 10, 19, and 28. All other claims are dependent on these claims. Summary of the subject matter of the dependent claims is omitted as unnecessary.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

A. At issue in this appeal is whether the rejection of claims 1-7, 10-16, 19-25, and 28 under 35 U.S.C §103(a) over U.S. Patent Application 2002/0175289 to Soluri *et al.* ("Soluri") in view of U.S. Patent 5,099,134 to Hase *et al.* ("Hase") and in view of U.S. Patent 4,725,734 to Nishiki ("Nishiki") is in error.

B. At issue in this appeal is whether the rejection of claims 8, 9, 17, 18, 26, and 27

[17] Specification, page 4, lines 21 – 22.
[18] Specification, page 7, lines 26 – 28.
[19] Specification, page 4, line 23.
[20] Specification, page 8, lines 5 – 7.
[21] Specification, page 6, lines 17 – 19.
[22] Specification, page 4, lines 26 – 28.
[23] Specification, page 4, line 28.
[24] Specification, page 4, line 29.
[25] Specification, page 4, line 30 – page 5, line 2.
[26] Specification, page 6, lines 12 – 17.

under 35 U.S.C §103(a) over Soluri, Hase, and Nishiki in view of U.S. Patent 5,961,714 to Melscher *et al.* ("Melscher") is in error.

ARGUMENT:

Appellants respectfully submit that the rejection of claims 1-7, 10-16, 19-25, and 28 under 35 U.S.C §103(a) over Soluri in view of to Hase and in view of Nishiki is in error.

With respect to claims 1, 10, 19, and 28, the Office Action alleges that Soluri discloses the collimator devices of these claims with pixilated scintillators individually located in each the collimation square holes.[27] However, the Office Action admits that Soluri fails to expressly disclose the method and/or the specifics of producing the collimator. Rather the Office Action alleges that "Hase shows that a collimator having plates with a number of through holes formed side by side, each hole for guiding and inserting a plurality of plates is known (Figures 1, 2, 56, 11 and 14)."[28] The Office Action further admits that Soluri "fails to teach said optical reflective material coating at least a portion of the surfaces of said sheets forming said grid of said collimation square holes."[29] The Office Action further cites that Nishiki teaches this limitation.[30]

The *Soluri* Reference

Soluri discloses a miniaturized scintigraphic device having a collimator with integrated crystals. One of the aims of the invention "is to achieve a miniaturized device with high spatial resolution, suitable for use both during surgical operations and as an external diagnostic device."[31] As shown in Figure 2 below, the miniaturized scintigraphic device comprises a collimator 1, a scintillation crystal structure 2, a PSPMT photomultiplier structure 3, and electronic components 4.[32] The collimator 1 is made of a material with high effective atomic number and high density.[33] The collimator 1 includes

[27] Page 4 of the Final Office Action mailed 1/28/09.
[28] Page 4 of the Final Office Action mailed 1/28/09.
[29] Page 5 of the Final Office Action mailed 1/28/09.
[30] Page 5 of the Final Office Action mailed 1/28/09.
[31] Paragraph [0013] of US Patent Application 2002/0175289.
[32] Paragraph [0031] of US Patent Application 2002/0175289.
[33] Paragraph [0033] of US Patent Application 2002/0175289.

a plurality of equal conduits 10 which are separated by septa 11.[34] A scintillation crystal structure 2 comprises a plurality of crystals 20 with a crystal 20 in each conduit to convert radiation coming from a source under examination into light radiation.[35] At least one photomultiplier 3 converts the light radiation into proportioned electrical signals which the electronic circuits 4 amplifying and integrating the electrical signals which are provided to a computer.

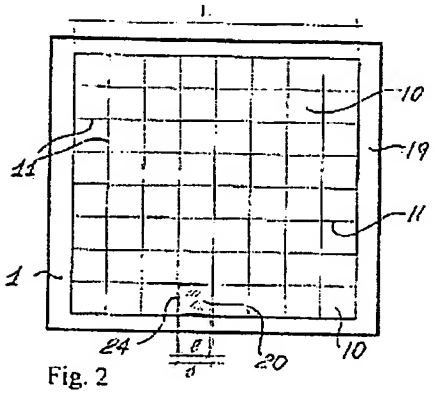


Fig. 2

The *Hase et al.* Reference

Hase discloses a fan-beam focusing collimator, which functions to focus radiation in a converging manner onto a scintillation crystal. The basic elements of the Hase collimator are shown in Figures 1 – 4.

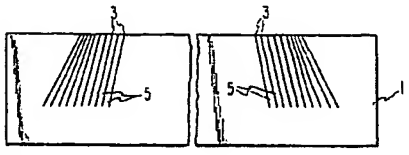


FIG.1

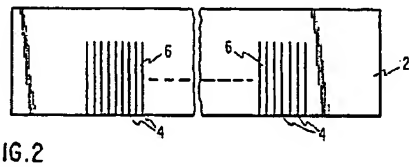


FIG.2

[34] Paragraph [0032] of US Patent Application 2002/0175289.
[35] Paragraphs [0034] – [0037] of US Patent Application 2002/0175289.

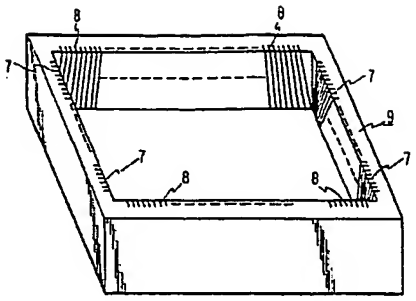


FIG.3

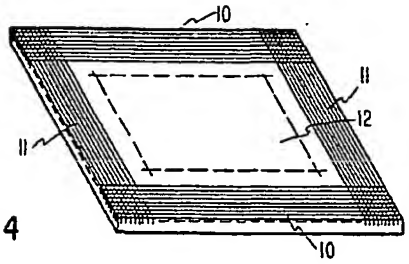


FIG.4

Column 5, lines 27 – 54 of the reference, explains that the collimator is formed by:

- forming a box frame **9** of tungsten or lead alloy;
- forming the guide grooves **7** and **8** in the inner walls of the frame **9**;
- cutting out the end plate **12** of a square shape from an original material of aluminum, which passes radiations; forming the guide grooves **10** and **11**;
- fitting the bottom portions and both end portions of the comb-shaped plates **1** in the guide grooves **7** and **10**;
- fitting the bottom portions and both end portions of the comb-shaped plates **2** in the guide grooves **8** and **11**, while making the slits **4** of the comb-shaped plates and the grooves **3** of the comb-shaped plates **1** to engage with the box-shaped body **13**, crossing one another.

Hase requires a box frame **13** as shown in Figure 5, with walls **9** and radiation transparent bottom frame element **12**, as a necessary structural requirement of the disclosed collimator.

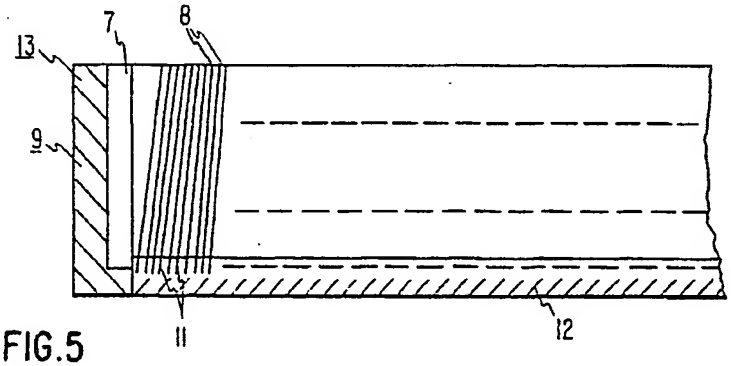


FIG.5

The reference also explains, in column 12, lines 17 – 26, that the box assembling efficiency can be significantly improved by assembling the comb-shaped plates 90 and 91 in separate box frames 110 and 111, which are then connected through positioning pins 112 and positioning holes 113.

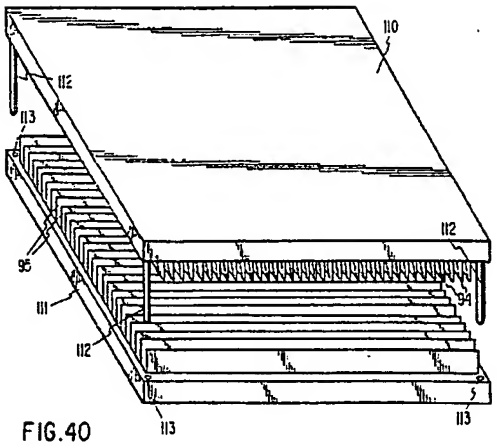
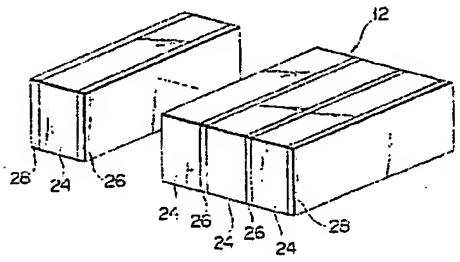


FIG.40

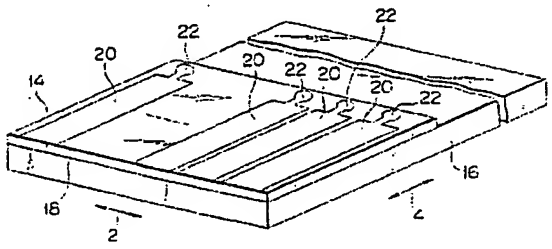
The *Nishiki* Reference

As shown in Figures 2 and 3, Nishiki discloses a radiation-detecting device for computed tomography, wherein a plurality of scintillation elements **24** are linearly arranged with a collimator plate **26** interposed between the respective units thereof; an outermost collimator plate **28** is set outside of each terminal unit of said linearly arranged scintillation elements; the scintillation elements are adhered to the surface of a semiconductor substrate **18** on which a plurality of photodiode elements **14** are mounted.

F I G. 2



F I G. 3



The reference also states, "[t]he collimator plates are coated on both sides with a highly efficient reflector to reflect light beams generated from the scintillation element."[36]

[36] Column 3, lines 55 – 58 of US 4,725,734.

The Proposed Combination

The Office Action fails to establish a *prima facie* case of obviousness because, *inter alia,* the Office Action fails to provide a proper teaching, suggestion, or motivation to combine the references. Under KSR, a *prima facie* case of obviousness still requires reasons, based on evidence, to make a proposed combination of references. In KSR, the Supreme Court opposed "a formalistic conception of the words teaching, suggestion, and motivation, or ... overemphasis on the importance of published articles and the explicit content of issued patents" but did not endorse unjustified modification or combination of reference disclosure. *KSR International Col. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). The Federal Circuit subsequently explained:

> *[A] flexible TSM test remains the primary guarantor against a non-statutory hindsight analysis....* The TSM test, flexibly applied, merely assures that the obviousness test proceeds on the basis of *evidence* – teachings, suggestions (a tellingly broad term), or motivations (an equally broad term) – that arise before the time of invention as the statute requires.

Ortho-McNeil Pharmaceutical v. Mylan, 2007-1223, *11 (Fed. Cir. Mar. 31, 2008) (emphasis added). A recent decision by the Board of Patent Appeals and Interferences provides further illumination:

> The U.S. Supreme Court recently held that rigid and mandatory application of the "teaching-suggestion-motivation," or TSM, test is incompatible with its precedents. The Court did not, however, discard the TSM test completely; it noted that its precedents show that an invention "composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art."
>
> ....
>
> [O]bviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some "apparent reason to combine the known elements in the fashion claimed."

Ex parte Whalen II, Appeal 2007-4423, July 23, 2008, pg. 15-16 (quoting *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007)) (citations omitted).

Thus, KSR still requires that a *prima facie* case of obviousness includes *evidence* regarding teachings, suggestions, or motivations to make a proposed combination of references. Such a showing is required to guard against allegations of obviousness that are actually derived from impermissible hindsight.

The Office Action fails to provide proper motivation to make the proposed combination of references. Here, the Office Action provides the Examiner's interpretation of KSR that contradicts both Federal Circuit and BPAI precedent. The only alleged motivation to make the proposed combination of references is from objectives recited in the Summary of the Invention of Hase with the Office Action reciting that:

> Hase further teaches that the method making such a collimator improves sensitivity, resolution and manufacturing yields (Col. 1, Lines 45-52). In view of the utility in containing a collimator with such characteristics, it would have been obvious to one of ordinary skill in the art at the time the invention was made to specify that the collimator disclosed in Soluri be made as that taught be Hase.

Office Action, pp. 4-5. The objectives do not provide the proper motivation to form a collimator device including pixellated scintillators individually located in each of said collimation square holes as recited in claim 1 and similarly recited in the other independent claims. Specifically, the Office Action fails to provide *evidence* that a person having ordinary skill in the art would combine these *particular references*. Without such an explanation, the proposed combination of references constitutes impermissible hindsight.

As the Examiner knows, hindsight reconstruction of the claimed invention is not a proper basis upon which to make a determination of obviousness under 35 U.S.C. § 103. The teaching, suggestion or motivation instead must come from the prior art itself. The asserted motivation consists of broad, general statements of providing a "new and improved" collimator do not constitute the specific reasoning to combine different prior art references that would make the proposed combination of references obvious within the meaning of 35 U.S.C. § 103. Clearly, improved sensitivity, high resolution and improved manufacturing yield are universally desired objectives in the medical imaging field, yet does not mean that one of ordinary skill in the art would have sought to modify every collimator in existence with the Hase reference simply because Hase articulated these objectives in the context of his invention.

Moreover, the references actually *teach away* from their combination because every aspect of Hase confirms that the collimator of Hase is intended to be used, and in fact must be used, with a conventional scintillation crystal slab. Even the title of the

reference, "collimator for a scintillator," makes clear that the reference is intended to be used with a single scintillation crystal slab. As expressed in the Background section in column 1, lines 16 – 22:

> A scinticamera is a device for acquiring ... a scintigram. This scinticamera deflects radiation given in a body by a large circular scintillator, a number of photomultiplier tubes, a computer, etc. A honeycomb perforated collimator is provided next to the scintillator to detect radiation from a target organ as much as possible at high sensitivity.[37]

The object of the Hase reference was to provide a new and improved collimator for a conventional scintillation crystal radiation detector. Moreover, the only reason for making the bottom frame **12** radiation transparent (*See* FIG. 4; col. 4, lines 29-30) is to allow radiation to pass through and out of the collimator frame to a scintillation crystal slab positioned adjacent to the collimator. The purpose of the Hase collimator is to focus radiation in a converging manner onto to a scintillation crystal slab. Appellants respectfully submit that there is simply no suggestion or teaching of any other use of the disclosed collimator.

Hase fails to disclose the placement of pixellated scintillators in the holes **15** formed by the partition plates **1** and **2**. More importantly, such placement would be contrary to the purpose of the Hase collimator, which functions to focus radiation in a converging manner onto a scintillation crystal slab; as such Hase further fails to suggest such pixellated scintillators and in fact teaches away from such scintillators

KSR does not permit rejection of claims based on any arbitrary combination of references; rather, some reason to *combine particular references* must be provided, particularly when these references teach away from their combination. Accordingly, the combination of references is improper and the obviousness rejection should be reversed.

In addition, Hase does not recognize any deficiency in the Soluri device that would be solved by the Hase device. Therefore, Hase contains no teaching, suggestion or motivation from which those of ordinary skill in the art would have sought to make the modification proposed in the Office action. Only the present application teaches an improvement in pixellated collimator fabrication, and only a reading of the present

[37] Column 1, lines 16 – 22 of US 5,099,134 (emphasis added).

application would have suggested the combination of prior art as set forth in the Office Action.

One of ordinary skill in the art would not have been motivated by Hase to have modified the Soluri miniaturized scintigraphic device as proposed by the Office Action. In this regard, Applicants' argument is **not** that features of one reference may not be bodily incorporated into the other reference, but that no combination of Soluri with Hase would make obvious to one of ordinary skill in the art the invention as set forth in the claims pending in this application.

Hase does not suggest placement of individual crystals between the septa of the disclosed collimator. As previously explained, Hase teaches the requirement of a box frame 13 as shown in Fig. 5, with walls 9 and transparent bottom frame element 12, as a necessary structural requirement of the disclosed collimator. Therefore, the collimator of Hase is intended to be used, and in fact must be used, with a scintillation crystal slab. There simply is no suggestion or teaching in Hase of any other use of the disclosed collimator.

The alleged "teaching" of Hase to improve the manufacturing yield of a conventional mass-produced collimator does not provide the requisite suggestion in the art to modify the specialized, miniaturized device disclosed by Soluri. It is axiomatic that a prior art reference must be considered as a whole for what it discloses to those skilled in the art, and thus it is improper to take individual statements such as the quoted statement out of the context of the prior art reference as a whole. Hase considered as a whole simply does not suggest placement of individual crystals between septa as disclosed by the specialized device of Soluri. Improvement in manufacturing yield of a mass-produced collimator simply does not suggest making any modification to a niche product as disclosed by Soluri. A manufacturer of the Soluri device would not be anxious about improving manufacturing yield as the Soluri device does not have the mass demand of a conventional-use collimator as disclosed by Hase.

Lastly, modifying Hase to use pixellated scintillators would change the principle operation of Hase and modifying Soluri to use the septa requiring a box frame with a transparent bottom frame element would change the principle operation of Soluri. As recited in the MPEP,

> If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.).

MPEP 2143.01 (VI). Hence the teachings of the references are not sufficient to establish a *prima facie* case of obviousness.

Placement of pixellated scintillators in the holes formed by the partition plates of the Hase collimator would be contrary to the purpose of the Hase collimator, which functions to focus radiation in a converging manner onto a scintillation crystal slab. It is well-settled that "[i]f [a] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP §2143.01, citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Thus, from the outset, it should be clear that no apparent reason exists to place pixellated scintillators in the holes formed by the partition plates of the Hase collimator.

Lastly, while Nishiki discloses coating collimator plates with a reflector, Nishiki does not suggest the modification of Soluri with Hase as proposed. Accordingly the addition of Nishiki does not render the combination of Soluri with Hase proper as proposed.

Appellants respectfully submit that the rejection of claims 8, 9, 17, 18, 26, and 27 under 35 U.S.C §103(a) over Soluri, Hase, and Nishiki in view of U.S. Patent 5,961,714 to Melscher *et al.* ("Melscher") is in error. Specifically, Melscher fails to cure the deficiencies of the Soluri, Hase, and Nishiki with respect to independent claims 1 and 19, dependent claims 8, 9, 17, 18, 26, and 27 are allowable as well.

Conclusion

In short, searching for "keywords" disclosed in the present application, for example, "collimator, grid, optically reflecting material, and scintillators," might yield the Soluri, Hase, and Nishiki references as search results. However, the teachings of Soluri, Hase, and Nishiki cannot be properly combined to arrive at the present invention. The same also applies to the teaching of Soluri, Hase, Nishiki, and Melscher with respect to claim 8, 9, 17, 18, 26, and 27 as well. Appellants respectfully submit that the present rejections are in error and should be reversed.

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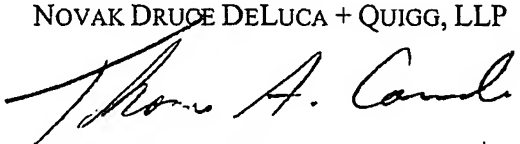

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CLAIMS APPENDIX:

1. (Original) A collimator device for a nuclear imaging camera, comprising:

a grid of collimation square holes formed by a plurality of sheets arranged in a grid pattern, each of said sheets having evenly spaced slots into which other sheets are inserted;

optically reflecting material coating at least a portion of the surfaces of said sheets forming said grid of said collimation square holes; and

pixellated scintillators individually located in each of said collimation square holes.

2. (Original) The device of claim 1, wherein said optically reflecting material maximizes light intensity of pixellated scintillators events.

3. (Original) The device of claim 1, wherein said pixellated scintillators are scintillation crystals.

4. (Original) The device of claim 1, wherein said pixellated scintillators have a square-shaped configuration.

5. (Original) The device of claim 1, wherein said plurality of sheets are formed of a material having a high density.

6. (Original) The device of claim 5, wherein the high density material is tungsten.

7. (Original) The device of claim 5, wherein the high density material is lead.

8. (Original) The device of claim 1, wherein the reflecting material is TiO.sub.2.

9. (Original) The device of claim 1, wherein the reflecting material is MgO.

10. (Original) A scintigraphic device, comprising:

a collimator device including a grid of collimation square holes formed by a plurality of sheets arranged in a grid pattern, each of said sheets having evenly spaced slots into which other sheets are inserted;

optically reflecting material coating at least a portion of the surfaces of said sheets forming said grid of said collimation square holes; and

pixellated scintillators individually located in each of said collimation square holes; and a detector coupled to said pixellated scintillators and operable to detect radiation emanating from an object and interacting with said scintillators after passing through said collimator device.

11. (Original) The device of claim 10, wherein said optically reflecting material maximizes light intensity of pixellated scintillators events.

12. (Original) The device of claim 10, wherein said pixellated scintillators are scintillation crystals.

13. (Original) The device of claim 10, wherein said pixellated scintillators have a square-shaped configuration.

14. (Original) The device of claim 10, wherein said plurality of sheets are formed of a material having a high density.

15. (Original) The device of claim 14, wherein the high density material is tungsten.

16. (Original) The device of claim 14, wherein the high density material is lead.

17. (Original) The device of claim 10, wherein the reflecting material is TiO.sub.2.

18. (Original) The device of claim 10, wherein the reflecting material is MgO.

19. (Original) A method of forming a collimator device, comprising:

forming a plurality of evenly spaced slots across a longitudinal direction of a plurality of sheets;

arranging said plurality of sheets in a grid pattern by inserting a sheet into each of said slots and thereby forming a grid of collimation square holes;

coating at least a portion of the surfaces of said sheets forming said grid of said collimation square holes with an optically reflecting material; and

inserting pixellated scintillators into each of said collimation square holes.

20. (Original) The method of claim 19, wherein said optically reflecting material maximizes light intensity of pixellated scintillators events.

21. (Original) The method of claim 19, wherein said pixellated scintillators are scintillation crystals.

22. (Original) The method of claim 19, wherein said pixellated scintillators have a square-shaped configuration.

23. (Original) The method of claim 19, wherein said plurality of sheets are formed of a material having a high density.

24. (Original) The method of claim 23, wherein the high density material is tungsten.

25. (Original) The method of claim 23, wherein the high density material is lead.

26. (Original) The method of claim 19, wherein the reflecting material is TiO.sub.2.

27. (Original) The method of claim 19, wherein the reflecting material is MgO.

28. (Previously presented) A building block for forming a collimator device of a nuclear medical imaging camera, comprising an elongated sheet of metallic material having a thickness suitable for functioning as septa of said collimation device, having a plurality of evenly spaced slots into which other elongated sheets are inserted in order to form a grid pattern of collimation holes into which pixellated scintillators are placed, and being coated with an optically reflective material.

EVIDENCE APPENDIX:

None.

RELATED PROCEEDINGS AAPPENDIX:

None.